

ABSTRACT

A method for mitigating the effect of interference between a first base station and a second base station, the first base station and second base stations both sharing a same primary synchronization code. The method includes generating a primary synchronization channel having the primary synchronization code. In a W-CDMA system, all base stations share this primary synchronization code, causing code timing collisions. The present invention includes rotating the primary synchronization channel in phase according to a phase rotation sequence before transmitting the primary synchronization channel. By rotating the primary synchronization channel in phase according to the phase rotation sequence, the interference can be reduced. The phase rotation sequence may be pseudorandom in phase. The phase rotation sequence may include changing phase once per slot, or alternately once per frame. The phase rotation sequence may also be based at least in part on a secondary synchronization code.